

CLAIMS

1. A recombinant polynucleotide encoding a fusion protein comprising the variable region of the light chain of a selected antibody linked to the variable region of the heavy chain of the selected antibody, the signaling domain of human CD28 receptor and a transmembrane domain.

2. The recombinant polynucleotide of claim 1, wherein the transmembrane domain is the human CD28 transmembrane domain.

3. The recombinant polynucleotide of claim 1, wherein the selected antibody is an anti-G<sub>D2</sub> antibody.

4. The recombinant polynucleotide of claim 3, further comprising a region encoding a suicide gene.

5. The recombinant polynucleotide of claim 4, wherein the suicide gene encodes thymidine kinase.

6. The recombinant polynucleotide of claim 1, further comprising a region encoding a suicide gene.

7. The recombinant polynucleotide of claim 6, wherein the suicide gene encodes thymidine kinase.

1 8. A recombinant peptide comprising the variable region of the light chain of a  
2 selected antibody linked to the variable region of the selected antibody, the signaling domain of  
3 the human CD28 receptor and a transmembrane domain.

1 9. The recombinant peptide of claim 8, wherein the transmembrane domain to  
2 the human CD28 transmembrane domain.

1 10. The peptide according to claim 9, wherein the selected antibody is an anti-  
2 G<sub>D2</sub> antibody.

1 11. T cells expressing a recombinant peptide comprising the variable region of  
2 the light chain of selected antibody linked to the variable region of the heavy chain of the selected  
3 antibody and to the signaling domain of the human CD28 receptor and a transmembrane domain.

1 12. T cells of claim 11, wherein the transmembrane domain to the human  
2 CD28 transmembrane domain.

1 13. T cells according to claim 11, wherein the selected antibody is an anti-G<sub>D2</sub>  
2 antibody.

1 14. T cells according to claim 13, wherein the T cells further express a suicide  
2 gene.

1 15. T cells according to claim 14, wherein the suicide gene encodes thymidine  
2 kinase.

1                   16.    A method for inducing in a host an immune response to tumor cells  
2   expressing a surface antigen comprising the steps of

3                   (a)    transducing T cells to introduce an expressible recombinant polynucleotide  
4   encoding a fusion protein comprising the variable region of the light chain of an antibody against  
5   the surface antigen, linked to variable region of the heavy chain of an antibody against the surface  
6   antigen, the signaling domain of human CD28 receptor and a transmembrane domain; and

7                   (b)    introducing transduced T cells expressing the recombinant polynucleotide  
8   into the host.

1                   17.    The method according to claim 16, wherein the transmembrane domain to  
2   the human CD28 transmembrane domain.

1                   18.    The method of claim 16, wherein the tumor cells express G<sub>D2</sub> as a surface  
2   antigen, and wherein the fusion protein includes the light chain and the heavy chain of an antibody  
3   against G<sub>D2</sub>.

1                   19.    The method according to claim 18, wherein the expressible polynucleotide  
2   further encodes a suicide gene.

1                   20.    The method according to claim 19, wherein the expressible polynucleotide  
2   further encodes a suicide gene.